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```
25 26 27 30 34 36 37
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24
chain bonds :
6-25 10-27 14-26 17-36 20-36 25-27 26-27 36-37
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18
14-15 15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24
exact/norm bonds :
6-25 13-14 13-18 14-15 14-26 15-16 16-17 17-18 25-27 26-27 36-37
exact bonds :
10-27 17-36 20-36
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 19-20 19-24 20-21 21-22 22-23 23-24
isolated ring systems :
containing 1 : 7 : 13 : 19 :
```

G1:C,N

chain nodes :

G2:CF2,CF3,CC12,CC13,CBr2,CBr3,X

G3:C.N

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:CLASS 26:CLASS 27:CLASS 30:CLASS 31:Atom 34:CLASS 35:Atom 36:CLASS 37:CLASS

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THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 185.40 U.S. DOLLARS DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y) /N or END:y FULL SEARCH INITIATED 15:35:29 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED -685 TO ITERATE

100.0% PROCESSED 685 ITERATIONS SEARCH TIME: 00.00.01

6 ANSWERS

6 SEA SSS FUL L1

=> file caplus

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FILE COVERS 1907 - 30 Jun 2009 VOL 151 ISS 1 FILE LAST UPDATED: 29 Jun 2009 (20090629/ED) REVISED CLASS FIELDS (/NCL) LAST RELOADED: Apr 2009 USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Apr 2009

CAplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2009.

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=> s 12 full L3 2 L2

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GI

L3 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:1103625 CAPLUS

DOCUMENT NUMBER: 143:387060

TITLE: Preparation of piperazine or piperidine derivatives as

serotonin reuptake inhibitors

INVENTOR(S): Pinney, Kevin G.; Miranda, Maria Graciela; Dorsey,

James Michael

PATENT ASSIGNEE(S): Baylor University, USA SOURCE: PCT Int. Appl., 52 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION:

PA	PATENT NO.					D	DATE		APPLICATION NO.						DATE			
	2005094896																	
	W:	ΑE,	AG,	AL,	AM,	AT,	AU,	AZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,	
		CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,	
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KΡ,	KR,	ΚZ,	LC,	
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NA,	NI,	
		NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SM,	
		SY,	ΤJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW
	RW:	BW,	GH,	GM,	KE,	LS,	MW,	MZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	
		AZ,	BY,	KG,	KZ,	MD,	RU,	ТJ,	TM,	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	
		EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,	IS,	IT,	LT,	LU,	MC,	NL,	PL,	PT,	
		RO,	SE,	SI,	SK,	TR,	BF,	ВJ,	CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	
		MR,	NE,	SN,	TD,	TG,	AP,	EA,	EP,	OA								
EP	EP 1732610				A2 20061220			EP 2005-730778						20050328				
	R:	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	IE,	
		IS,	IT,	LI,	LT,	LU,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR,	AL,	BA,	
		HR,	LV,	MK,	YU													
US	US 20080132514				A1 20080605				US 2007-594105						20070921			
PRIORIT	RIORITY APPLN. INFO.:							US 2004-557069P						P 20040326				
										WO 2	005-	US10	356		W 2	0050	328	
OTHER S	THER SOURCE(S):					CASREACT 143:387060; MARPAT 143:387060												

10/513699

AB Title compds. I [X = F or CF3; Y = (CH2)n; n = 0-1; A = N or C; Ar = aryl] and their pharmaceutically acceptable salts, are prepared and disclosed as serotonin reuptake inhibitors. Thus, e.g., II was prepared by reduction of 1-phenyl-3-(4-phenyl-piperazin-1-yl)-propan-1-ol (preparation given) using sodium borohydride followed by coupling with 4-fluorophenol. The ability of I to inhibit [3H]5-HT uptake was evaluated using liquid scintillation spectroscopy and it was revealed that selected compds. of the invention possessed IC50 values in the range of 1.45 up to 9.56 µM. I as serotonin reuptake inhibitors should prove useful in the treatment of depression. Pharmaceutical composition comprising I are disclosed.

II

IT 866548-42-7P 866548-43-8P 866548-44-9P 866548-45-0P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of piperazine or piperidine derivs. as serotonin reuptake inhibitors)

RN 866548-42-7 CAPLUS

CN Methanone, [1-[2-(4-fluorophenoxy)-2-phenylethyl]-4-piperidinyl](4-fluorophenyl)- (CA INDEX NAME)

RN 866548-43-8 CAPLUS

<12/04/2007>

Erich Leese

CN Methanone, [1-[2-(4-fluorophenoxy)-2-phenylethyl]-4-piperidinyl](4-fluorophenyl)-, hydrochloride (1:1) (CA INDEX NAME)

$$\begin{array}{c|c} & & & Ph \\ \hline & O & N-CH_2-CH-O \\ \hline \end{array}$$

HC1

- RN 866548-44-9 CAPLUS
- CN Methanone, (4-fluorophenyl)[1-[2-phenyl-2-[4-(trifluoromethyl)phenoxy]ethyl]-4-piperidinyl]- (CA INDEX NAME)

$$\begin{array}{c|c} & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ &$$

- RN 866548-45-0 CAPLUS
- CN Methanone, (4-fluorophenyl)[1-[2-phenyl-2-[4-(trifluoromethyl)phenoxy]ethyl]-4-piperidinyl]-, hydrochloride (1:1) (CA INDEX NAME)

HC1

L3 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:860624 CAPLUS

DOCUMENT NUMBER: 140:76994

TITLE: Syntheses and Binding Studies of New

[(Aryl)(aryloxy)methyl]piperidine Derivatives and Related Compounds as Potential Antidepressant Drugs

with High Affinity for Serotonin (5-HT) and

Norepinephrine (NE) Transporters
AUTHOR(S): Oriales, Aurelio; Mosquera, Ramon

Orjales, Aurelio; Mosquera, Ramon; Toledo, Antonio; Pumar, M. Carmen; Garcia, Neftali; Cortizo, Lourdes;

Labeaga, Luis; Innerarity, Ana

CORPORATE SOURCE: Research Department, FAES FARMA S. A., Leioa, Vizcaya,

Research Department, FAES FARMA 48940, Spain

SOURCE: Journal of Medicinal Chemistry (2003), 46(25),

5512-5532

CODEN: JMCMAR; ISSN: 0022-2623

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:76994

GI

AB In a wide search program toward new, efficient, and fast-acting antidepressant drugs, series of new compds. having an (arvl) (arvloxy) methyl moiety linked directly or through a methylene chain to different substituted and unsubstituted cycles (isoquinoline, piperazine, piperidine, tetrahydropyran, or cyclopentane) were prepared These compds, have been evaluated for their affinities for serotonin (5-HT) transporter (SERT) and 5-HT1A and 5-HT2A receptors. Racemic mixts. of 4-[(aryl)(aryloxy)methyl]piperidines I (R1 = H, Me, MeCO; R2 = H, 3-F, 4-F, 4-C1, 4-Me; R3 = H, 2-CN, 4-O2N, 4-MeO, 2-Ph, etc.) showed much higher affinity values for SERT than fluoxetine and resulted in lack of affinity for 5-HT1A and 5-HT2A receptors. Some of these racemic mixts. were resolved to their enantiomers and tested for binding to norepinephrine (NE) transporter (NET), dopamine (DA) transporter (DAT), and $\alpha 2$ receptor. Several of these enantiomers, (-)-I (R1 = R2 = H; R3 = 2-F), (-)-I (R1 = R2 = H; R3 = 3-F), (-)-I (R1 = H; R2 = 3-F; R3 = 2-F), (+)-I (R1 = H; R2 = R3 = 3-F), displayed a dual binding profile with affinities for SERT and NET with Ki < 25 nM and a NET/SERT ratio <10. (-)-I (R1 = R2 = H; R3 = 3-F) (coded as F-98214-TA for development studies) showed a dual binding profile with very high affinity values for SERT and NET (Ki = 1.9 and 13.5 nM, resp.), and further pharmacol. characterization is in progress for its evaluation as a antidepressant. 639467-63-3P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation of [(aryl)(aryloxy)alkyl]piperidines and analogs as potential antidepressants with high affinity for serotonin and norepinephrine transporters)

RN 639467-63-3 CAPLUS

CN Methanone, [1-[3-(2-fluorophenoxy)-3-phenylpropyl]-4-piperidinyl](4-fluorophenyl)-, hydrochloride (1:1) (CA INDEX NAME)

HC1

REFERENCE COUNT:

40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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FILE 'CAPLUS' ENTERED AT 15:35:33 ON 30 JUN 2009 L3 2 S L2 FULL

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ENTRY SESSION CA SUBSCRIBER PRICE -1.64 -1.64

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G1:C,N

chain nodes : 25 26 27 30

G2:CF2,CF3,CC12,CC13,CBr2,CBr3,X

G3:C.N

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:CLASS 26:CLASS 27:CLASS 30:CLASS 31:Atom

T. 4 STRUCTURE UPLOADED

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283 ITERATIONS

SEARCH TIME: 00.00.01

6 ANSWERS

TOTAL

386.76

SESSION

1.5 6 SEA SSS FUL L4

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COST IN U.S. DOLLARS FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR OUALIFYING ACCOUNTS)

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ENTRY

SINCE FILE

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=> d ibib abs hitstr tot THE ESTIMATED COST FOR THIS REQUEST IS 39.48 U.S. DOLLARS DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L6 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2009:412461 CAPLUS

DOCUMENT NUMBER: 151:496

TITLE: QSAR study of the 5-HT1A receptor affinities of

arylpiperazines using a genetic algorithm-artificial neural network model

AUTHOR(S): Habibi-Yangjeh, Aziz

CORPORATE SOURCE: Department of Chemistry, Faculty of Science,

University of Mohaghegh Ardabili, Ardabil, Iran SOURCE: Monatshefte fuer Chemie (2009), 140(5), 523-530

CODEN: MOCMB7; ISSN: 0026-9247

PUBLISHER: SpringerWienNewYork

DOCUMENT TYPE: Journal LANGUAGE: English

AB Genetic algorithm-multiparameter linear regression (GA-MLR) and genetic algorithm-artificial neural network (GA-ANN) models have been used for prediction of the 5-HTIA receptor affinities (pK i) of 66 arylpiperazines. A large number of theor. descriptors were calculated for each compound The

genetic

algorithm (GA) was used for selection of the variables that resulted in the best fit to the MLR and ANN models. The models were generated using seven descriptors as variables. For evaluation of the predictive power of the models, pK i values of 13 compds. in the prediction set were calculated Mean percentage deviation (MPD) for the GA-MLR and GA-ANN models were 0.344 and 0.055, resp. Comparison of the results obtained by use of the models reveals the GA-ANN model is superior to the GA-MLR model. Graphical abstract

T 328248-23-3

RL: PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(QSAR study of 5-HT1A receptor affinities of arylpiperazines using a genetic algorithm-artificial neural network model)

RN 328248-23-3 CAPLUS

CN Pyrimidine, 2-[4-[3-phenyl-3-[4-(trifluoromethyl)phenoxy]propyl]-1piperazinyl]- (CA INDEX NAME)

REFERENCE COUNT:

46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2008:803320 CAPLUS

DOCUMENT NUMBER . 149:215113

TITLE: Two-dimensional QSAR studies on arylpiperazines as

high-affinity 5-HT1A receptor ligands AUTHOR(S): Weber, Karen C.; Honorio, Kathia M.; Andricopulo,

Adriano D.; Da Silva, Alberico B. F.

CORPORATE SOURCE: Instituto de Ouimica de Sao Carlos, Universidade de

Sao Paulo, Sao Carlos, 13560-970, Brazil SOURCE: Medicinal Chemistry (2008), 4(4), 328-335

CODEN: MCEHAJ; ISSN: 1573-4064

PUBLISHER: Bentham Science Publishers Ltd.

DOCUMENT TYPE: Journal LANGUAGE: English

5-HT1A receptor plays an important role in the delayed onset of antidepressant action of a class of selective serotonin reuptake inhibitors. Moreover, 5-HT1A receptor levels have been shown to be altered in patients suffering from major depression. In this work, hologram quant. structure-activity relationship (HOSAR) studies were performed on a series of arylpiperazine compds, presenting affinity to the 5-HT1A receptor. The models were constructed with a training set of 70 compds. The most significant HQSAR model (q2 = 0.81, r2 = 0.96) was generated using atoms, bonds, connections, chirality, and donor and acceptor as fragment distinction, with fragment size of 6-9. Predictions for an external test set containing 20 compds. are in good agreement with exptl. results showing the robustness of the model. Addnl., useful information can be obtained from the 2D contribution maps.

328248-23-3

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(two-dimensional OSAR studies on arylpiperazines as high-affinity 5-HT1A receptor ligands)

328248-23-3 CAPLUS RN

CM Pyrimidine, 2-[4-[3-phenyl-3-[4-(trifluoromethyl)phenoxy]propyl]-1piperazinyl]- (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS 31 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2008:767635 CAPLUS

DOCUMENT NUMBER . 149:324283

TITLE: Quantitative structure-affinity relationship of 5-HT1A

receptor ligands by the classification tree method AUTHOR(S): Kuz'min, V. E.; Polischuk, P. G.; Artemenko, A. G.;

Makan, S. Yu.; Andronati, S. A.

CORPORATE SOURCE: A.V. Bogatsky Physical-Chemical Institute, National Academy of Sciences of Ukraine, Odessa, Ukraine

SOURCE: SAR and QSAR in Environmental Research (2008),

19(3-4), 213-244

CODEN: SOERED; ISSN: 1062-936X PUBLISHER:

Taylor & Francis Ltd.

DOCUMENT TYPE: Journal LANGUAGE: English

The influence of mol. structure of 346 ligands on their affinity for 5-HT1A receptors was investigated. It was shown that the effectiveness of the proposed novel approach for interpretation of decision tree models compared favorably with the PLS method. In the context of the proposed approach, mol. fragments and their values of the relative influence on the affinity for 5-HT1A receptors were defined.

328248-23-3

RL: ANT (Analyte); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study)

(quant. structure-affinity relationship of 5-HT1A receptor ligands by the classification tree method)

RN 328248-23-3 CAPLUS

Pyrimidine, 2-[4-[3-phenyl-3-[4-(trifluoromethyl)phenoxy]propyl]-1-CN piperazinyl]- (CA INDEX NAME)

REFERENCE COUNT:

25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2008:232006 CAPLUS

DOCUMENT NUMBER: 148:440268

TITLE: A chemometric study of the 5-HT1A receptor affinities

presented by arylpiperazine compounds

AUTHOR(S): Weber, Karen C.; da Silva, Alberico B. F.
CORPORATE SOURCE: Instituto de Quimica de Sao Carlos, Universidade de

Sao Paulo, Sao Carlos, 13566-590, Brazil

SOURCE: European Journal of Medicinal Chemistry (2008), 43(2),

364-372 CODEN: EJMCA5; ISSN: 0223-5234

CODEN: EJMCA5; ISSN: 0223-PUBLISHER: Elsevier Masson SAS

DOCUMENT TYPE: Journal

DOCUMENT TYPE: Journal LANGUAGE: English

Arylpiperazine compds. are promising 5-HT1A receptor ligands that can contribute for accelerating the onset of therapeutic effect of selective serotonin reuptake inhibitors. In the present work, the chemometric methods HCA, PCA, KNN, SIMCA and PLS were employed in order to obtain SAR and OSAR models relating the structures of arvlpiperazine compds. to their 5-HT1A receptor affinities. A training set of 52 compds. was used to construct the models and the best ones were obtained with nine topol. descriptors. The classification and regression models were externally validated by means of predictions for a test set of 14 compds. and have presented good quality, as verified by the correctness of classifications, in the case of pattern recognition studies, and by the high correlation coeffs. (q2 = 0.76, r2 = 0.83) and small prediction errors for the PLS regression. Since the results are in good agreement with previous SAR studies, we can suggest that these findings can help in the search for 5-HT1A receptor ligands that are able to improve antidepressant treatment. 328248-23-3

RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(chemometric study of 5-HTIA receptor affinities presented by arylpiperazine compds. as possible antidepressants) 328248-23-3 CAPLUS

CN Pyrimidine, 2-[4-[3-phenyl-3-[4-(trifluoromethyl)phenoxy]propyl]-1-piperazinyl]- (CA INDEX NAME)

REFERENCE COUNT:

RN

35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2006:847178 CAPLUS

DOCUMENT NUMBER: 145:410017

TITLE: Synthesis of benzenepropanamine analogues as non-detergent spermicides with antitrichomonas and

anticandida activities

AUTHOR(S): Kumar, S. T. V. S. Kiran; Sharma, Vishnu Lal; Kumar, Manish; Shukla, Praveen Kumar; Tiwari, Pratibha; Jain,

Rajeev Kumar; Maikhuri, Jagdamba Prasad; Singh, Divya; Gupta, Gopal; Singh, Man Mohan

CORPORATE SOURCE: Division of Medicinal and Process Chemistry, Central Drug Research Institute, Lucknow, 226001, India

SOURCE: Bioorganic & Medicinal Chemistry (2006), 14(19), 6593-6600

CODEN: BMECEP; ISSN: 0968-0896

PUBLISHER: Elsevier Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

LANGUAGE: English
OTHER SOURCE(S): CASREACT 145:410017

GI

Ι

AB Fifteen analogs of benzenepropanamine were synthesized and evaluated for their spermicidal as well as microbicidal activities against Trichomonas vaginalis and Candida spp. Several compds. showed appreciable dual activities. Compound I exhibited good spermicidal (MEC = 0.1%) along with substantial anticandidal (MIC = 0.05%) activities, while compds. 3 and 6 showed significant microbicidal activities with moderate spermicidal effect. The SAR of these structures is being discussed here in this communication. It is concluded that suitable structural modifications in this class of compds. at 3-amino position may lead to a potent spermicide with associated microbicidal activity.

IT 911811-11-5P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(benzenepropanamine analogs as non-detergent spermicides with antitrichomonas and anticandida activities)

- RN 911811-11-5 CAPLUS
- CN Pyrimidine, 2-[4-[3-phenyl-3-[4-(trifluoromethyl)phenoxy]propyl]-1-piperazinyl]-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

REFERENCE COUNT:

34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

GI

L6 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:1103625 CAPLUS

DOCUMENT NUMBER: 143:387060

TITLE: Preparation of piperazine or piperidine derivatives as

serotonin reuptake inhibitors

INVENTOR(S): Pinney, Kevin G.; Miranda, Maria Graciela; Dorsey,

James Michael PATENT ASSIGNEE(S):

Baylor University, USA SOURCE: PCT Int. Appl., 52 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION:

PA	PATENT NO.					KIND				APPLICATION NO.					DATE			
										WO 2005-US10356								
	W:	AE, CN, GE, LK, NO, SY,	AG, CO, GH, LR, NZ, TJ,	AL, CR, GM, LS, OM, TM,	AM, CU, HR, LT, PG, TN,	AT, CZ, HU, LU, PH, TR,	AU, DE, ID, LV, PL, TT, MW,	AZ, DK, IL, MA, PT, TZ,	DM, IN, MD, RO, UA,	DZ, IS, MG, RU, UG,	EC, JP, MK, SC, US,	EE, KE, MN, SD, UZ,	EG, KG, MW, SE, VC,	ES, KP, MX, SG, VN,	FI, KR, MZ, SK, YU,	GB, KZ, NA, SL, ZA,	GD, LC, NI, SM, ZM,	ZW
		EE, RO, MR,	ES, SE, NE,	FI, SI, SN,	FR, SK, TD,	GB, TR, TG,	RU, GR, BF, AP,	HU, BJ, EA,	IE, CF, EP,	IS, CG, OA	IT,	LT, CM,	LU, GA,	MC, GN,	NL, GQ,	PL, GW,	PT, ML,	
EP	1732 R:	AT, IS,	BE,	BG, LI,	CH, LT,	CY,	2006 CZ, MC,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	IE,	
PRIORIT						A1 20080605				US 2007-594105 US 2004-557069P WO 2005-US10356						P 20040326		

AB Title compds. I [X = F or CF3; Y = (CH2)n; n = 0-1; A = N or C; Ar = aryl] and their pharmaceutically acceptable salts, are prepared and disclosed as serotonin reuptake inhibitors. Thus, e.g., II was prepared by reduction of 1-phenyl-3-(4-phenyl-jeperazin-1-yl)-propan-1-ol (preparation given) using sodium borohydride followed by coupling with 4-fluorophenol. The ability of I to inhibit [3H]5-HT uptake was evaluated using liquid scintillation spectroscopy and it was revealed that selected compds. of the invention possessed IC50 values in the range of 1.45 up to 9.56 μM. I as serotonin reuptake inhibitors should prove useful in the treatment of depression. Pharmaceutical composition comprising I are disclosed.

II

IT 866548-32-5P 866548-33-6P 866548-34-7P 866548-35-8P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of piperazine or piperidine derivs. as serotonin reuptake inhibitors)

RN 866548-32-5 CAPLUS

CN Pyrimidine, 2-[4-[2-(4-fluorophenoxy)-2-phenylethyl]-1-piperazinyl]- (CA INDEX NAME)

- RN 866548-33-6 CAPLUS
- CN Pyrimidine, 2-[4-[2-(4-fluorophenoxy)-2-phenylethyl]-1-piperazinyl]-, hydrochloride (1:1) (CA INDEX NAME)

● HCl

- RN 866548-34-7 CAPLUS
- CN Pyrimidine, 2-[4-[2-phenyl-2-[4-(trifluoromethyl)phenoxy]ethyl]-1piperazinyl]- (CA INDEX NAME)

- RN 866548-35-8 CAPLUS
- CN Pyrimidine, 2-[4-[2-phenyl-2-[4-(trifluoromethyl)phenoxy]ethyl]-1-piperazinyl]-, hydrochloride (1:1) (CA INDEX NAME)

● HCl

L6 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2001:76 CAPLUS

DOCUMENT NUMBER: 134:207795

TITLE: New 1-aryl-3-(4-arylpiperazin-1-yl)propane

derivatives, with dual action at 5-HT1A serotonin receptors and serotonin transporter, as a new class of

antidepressants

AUTHOR(S): Martinez-Esparza, Javier; Oficialdegui, Ana-M.;

Perez-Silanes, Silvia; Heras, Begona; Orus, Lara; Palop, Juan-A.; Lasheras, Berta; Roca, Joan; Mourelle, Marisa; Bosch, Ana; Del Castillo, Juan-C.; Tordera,

Rosa; Del Rio, Joaquin; Monge, Antonio CORPORATE SOURCE: Departments of Medicinal Chemistry and

Departments of Medicinal Chemistry and Pharmacology Centro de Investigacion en Farmacobiologia Aplicada (CIFA), Universidad de Navarra, Pamplona, 31080, Spain

SOURCE: Journal of Medicinal Chemistry (2001), 44(3), 418-428

CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 134:207795

GI

AB In a search toward new and efficient antidepressants, 1-aryl-3-(4-arylpiperazin-1-yl)propane derivs. I (R = H, Ph, MeO, NO2, Z = CO, CHOH, CHOR1, Rl = 4-F3CC6H4, 4-MeOC6H4, 3,4-OCH3OC6H3, Ar1 =

2-MeOC6H4, 4-ClC6H4, 2-pyridyl, etc.), II (R = H, 2,5-Me2, 5-Me, 5-NO2, Z = CO, CNOH, CHOH, CHOR1, R1 = 4-F3CC6H4, 3,4-OCH2OC6H3, 1-C10H7, position = 2, 3), III and IV (Ar1 = 2-MeOC6H4, 4-C1C6H4, 2-HOC6H4, Z = CO, CHOH) were designed, synthesized, and evaluated for 5-HT reuptake inhibition and 5-HT1A receptor antagonism. This dual pharmacol. profile should lead, in principle, to a rapid and pronounced enhancement in serotoninergic neurotransmission and consequently to a more efficacious treatment of depression. The design was based on coupling structural moieties related to inhibition of serotonin reuptake, such as γ-phenoxypropylamines, to arylpiperazines, typical 5-HT1A ligands. In binding studies, several compds. showed affinity at the 5-HT transporter and 5-HT1A receptors. Antidepressant-like activity was initially assayed in the forced swimming test with those compds. with Ki < 200 nM in both binding studies. Functional characterization was performed by measuring the intrinsic effect on rectal temperature in mice and also the antagonism to 8-OH-DPAT-induced hypothermia. The most efficacious compds. II (R = H, Z = CHO-1-C10H7, position = 3, Ar1 = 2-MeOC6H4) (V), II[R = 5-Me, Z = (E)-CNOH, position = 2, Ar1 = 2-MeOC6H4] and IV (Z = CO, CHOH, Ar1 = 2-MeOC6H4) (VI) were further explored for their ability to antagonize 8-OH-DPAT-induced inhibition of forskolin-stimulated cAMP formation in a cell line expressing the 5-HTIA receptor. Furthermore, the antidepressant-like properties of V and VI, which exhibited 5-HT1A receptor antagonistic property in the latter study, were also evaluated in the learned helplessness test in rats. Among these three compds., VI (Z = CHOH) (1-benzo[b]thiophene-3-yl)-3-[4-(2-methoxyphenyl)-1-ylpropan-1-ol] showed the higher affinity at both the 5-HT transporter and 5-HT1A receptors (Ki = 20 nM in both cases) and was also active in the other pharmacol. tests. Such a pharmacol. profile could lead to a new class of antidepressants with a dual mechanism of action and a faster onset of action.

IT 328248-23-3P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation, 5-HTTLA serotonin receptor antagonist and serotonin transporter activity, and structure-activity relationship of

aryl(arylpiperazinyl)propanes)

RN 328248-23-3 CAPLUS

CN Pyrimidine, 2-[4-[3-phenyl-3-[4-(trifluoromethyl)phenoxy]propyl]-1piperazinyl]- (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

<12/04/2007> Erich Leese

54

=> d his

L2

(FILE 'HOME' ENTERED AT 15:34:53 ON 30 JUN 2009)

FILE 'REGISTRY' ENTERED AT 15:35:04 ON 30 JUN 2009

1 STRUCTURE UPLOADED

6 S L1 FULL

FILE 'CAPLUS' ENTERED AT 15:35:33 ON 30 JUN 2009

2 S L2 FULL

FILE 'REGISTRY' ENTERED AT 15:39:28 ON 30 JUN 2009

L4 STRUCTURE UPLOADED

L5 6 S L4 FULL

FILE 'CAPLUS' ENTERED AT 15:39:57 ON 30 JUN 2009

L6 7 S L5 FULL

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COST ÎN U.S. DOLLARS SINCE FILE TOTAL
ENTRY
FULL ESTIMATED COST 39.98 426.74

STN INTERNATIONAL LOGOFF AT 15:40:14 ON 30 JUN 2009